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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/859,396	05/18/2001	Masahiro Fushimi	P20611	3632

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EXAMINER	
SELBY, GEVELL V	

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/859,396	FUSHIMI ET AL.	
	Examiner	Art Unit	
	Gevell Selby	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 18 May 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 12, and 13 rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe, US 5,616,949.

In regard to claim 1, Watanabe, US 5,616,949, discloses a cover plate for covering an opening of a casing in which a solid state imaging device is disposed (see figure 2, element 27), said cover plate comprising:

a transparent cover plate member (see figure 2, element 28) that hermetically covers said opening (see column 3, lines 13-16 and 37-57); and

a conductive film layer (see figure 2, element 30) that covers an outermost surface of said transparent cover plate member (see column 3, lines 13-16).

In regard to claim 2, Watanabe, US 5,616,949, discloses a cover plate according to claim 1, wherein said conductive film layer comprises a metallic film layer (see column 3, lines 17-22).

In regard to claim 12, Watanabe, US 5,616,949, discloses a cover plate according to claim 1, wherein said transparent cover plate member comprises at least one cover glass (see figure 2, element 28) and said conductive film layer is formed on at least one side of said cover glass (see column 3, lines 13-16).

In regard to claim 13, Watanabe, US 5,616,949, discloses an image pickup device (see figure 2), comprising:

a solid state imaging device (see figure 2, element 20);

a casing to which said state imaging device is disposed (see figure 2, element 21);

a transparent cover plate member (see figure 2, element 28)that hermetically covers an opening of said casing (see column 3, lines 13-16 and 37-57); and

a conductive film layer (see figure 2, element 30) that covers an outermost surface of said transparent cover plate member (see column 3, lines 13-16).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, US 5,616,949.

In regard to claim 3, Watanabe, US 5,616,949, discloses a cover plate according to claim 2. The Watanabe reference discloses the metallic film layer (see column 3, lines 16-22) but does not disclose a Cr film layer .

Official Notice is taken that Chromium (Cr) is used as a metallic film layer because it is transparent, electronically conductive, and can be easily formed into thin film layers. It would have been obvious to one of ordinary skill in the art to configure the metallic film layer to be Cr, in order to be easily formed into thin film layers.

In regard to claim 11, Watanabe, US 5,616,949, discloses a cover plate according to claim 1. The Watanabe reference does not disclose that transparent cover plate member comprises at least one infrared cut-off filter and said conductive film layer is formed on at least one side of said infrared cut-off filter.

Official notice is taken that infrared cutoff filters are formed by vaporizing electrically conductive films on a glass base plate. Therefore, it would have been obvious to one of ordinary skill in the art to configure the cover plate of the Watanabe reference to have the conductive film layers and the glass plate comprise an infrared cutoff filter as claimed in claim 11 in order to protect the CCD from incoming infrared light.

6. Claims 4–9, and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651.

In regard to claim 4, Watanabe, US 5,616,949, discloses a cover plate according to claim 1. The Watanabe reference does not disclose that the transparent cover plate member comprises a plurality of laminated transparent

plates and at least one of said transparent plates comprises an optical low-pass filter.

Tsuyuki et al., US 6,069,651, discloses a solid-state image sensor comprising a glass cover (see figure 30, element 42) a filter unit (10) and the CCD (16). The filter unit (10) includes a low-pass filter and an infrared cut-off filter, placed immediately before the CCD in the optical path (see column 5, lines 4-6).

It would have been obvious to one of ordinary skill in the art at the time of invention to have been motivated to modify Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651, to have a plurality of laminated transparent plates and at least one of said transparent plates comprises an optical low-pass filter in order to block unwanted light while allowing acceptable light to pass to protect the image sensor.

In regard to claim 5, Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651, discloses a cover plate according to claim 4. The Tsuyuki reference discloses that the low-pass filter is formed by crystals (see column 16, lines 14-17) but does not disclose that the crystals are lithium niobate plates.

Official Notice is taken that an optical low-pass filter comprises a plurality of lithium niobate plates in order to take advantage of lithium niobate's birefringent effect. Therefore, it would have been obvious to one of ordinary skill in the art to modify the optical low-pass filter of the Tsuyuki reference to comprise a plurality of lithium niobate plates in order to take advantage of lithium niobate's birefringent effect.

In regard to claim 6, Watanabe, US 5,616,949, discloses a cover plate according to claim 1. The Watanabe reference does not disclose that transparent cover plate member comprises a plurality of laminated transparent plates and at least one of said transparent plates comprises an infrared cut-off filter.

Tsuyuki et al., US 6,069,651, discloses a solid-state image sensor comprising a glass cover (see figure 30, element 42) a filter unit (10) and the CCD (16). The filter unit (10) includes a low-pass filter and an infrared cut-off filter, placed immediately before the CCD in the optical path (see column 5, lines 4-6).

It would have been obvious to one of ordinary skill in the art at the time of invention to have been motivated to modify Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651, to have a plurality of laminated transparent plates and at least one of said transparent plates comprises an optical low pass filter and an infrared cut-off filter in order to block certain light ranges while allowing others to pass to the image sensor.

In regard to claim 7, Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651, discloses a cover plate according to claim 6, wherein at least one of said transparent plates comprises an optical low-pass filter (see Tsuyuki: column 5, lines 4-6).

In regard to claim 8, Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651, discloses a cover plate according to claim 7. The Watanabe reference does not disclose a filter configuration. The Tsuyuki reference discloses a filter configuration wherein an infrared cut-off filter (see figure 6, element 61 and an optical low-pass filter (see figure 6, element 59) are arranged so that the

infrared cut-off filter is disposed at a side closer to said solid state imaging device (see figure 6, element 16) with the glass cover providing a hermetically sealed structure (see column 8, lines 39-59).

It would have been obvious to one of ordinary skill in the art to configure Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651, to have the optical low-pass filter are arranged so that the infrared cut-off filter is disposed at a side closer to said solid state imaging device in order to maintain the infrared cutoff filter operating longer since it has poor moisture resistance.

In regard to claim 9, Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651, discloses a cover plate according to claim 1, wherein said transparent cover plate member comprises a plurality of laminated transparent plates and at least one of said transparent plates comprises a cover glass (see Watanabe: column 3, lines 13-16).

In regard to claim 10, Watanabe, US 5,616,949, discloses a cover plate according to claim 1. Wantanabe does not disclose that the transparent cover plate member comprises at least one lithium niobate plate and said conductive film layer is formed on at least one side of said lithium niobate plate.

Tsuyuki et al., US 6,069,651, discloses a solid-state image sensor comprising a glass cover (see figure 30, element 42) a filter unit (10) and the CCD (16). The filter unit (10) includes a low-pass filter and an infrared cut-off filter, placed immediately before the CCD in the optical path (see column 5, lines 4-6).

Official Notice is taken that an optical low-pass filter comprises a plurality of lithium niobate plates in order to take advantage of lithium niobate's

birefringent effect. Therefore, it would have been obvious to one of ordinary skill in the art to configure Watanabe, US 5,616,949, in view of Tsuyuki et al, US 6,069,651, to have a low-pass filter comprising a lithium niobate plate in order to take advantage of lithium niobate's birefringent effect, beside the metallic film layer on the bottom side of the glass cover.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art discloses solid-state imaging devices with cover plates:

US 5,786,589,

US 4,761,682,

US 6,476,469,

US 2001/0007475.

US 6,650,474 discloses a solid-state imaging device with a filter unit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 703-305-8623. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gvs

TUAN HO
PRIMARY EXAMINER